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Lasaga

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(54) **HAND TOOL FOR REMOVING NAILS**

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CPC ***B25C 11/00*** (2013.01)

(58) **Field of Classification Search**
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USPC 254/21; D8/89
See application file for complete search history.

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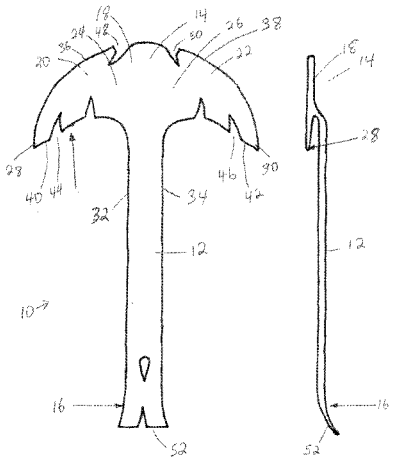
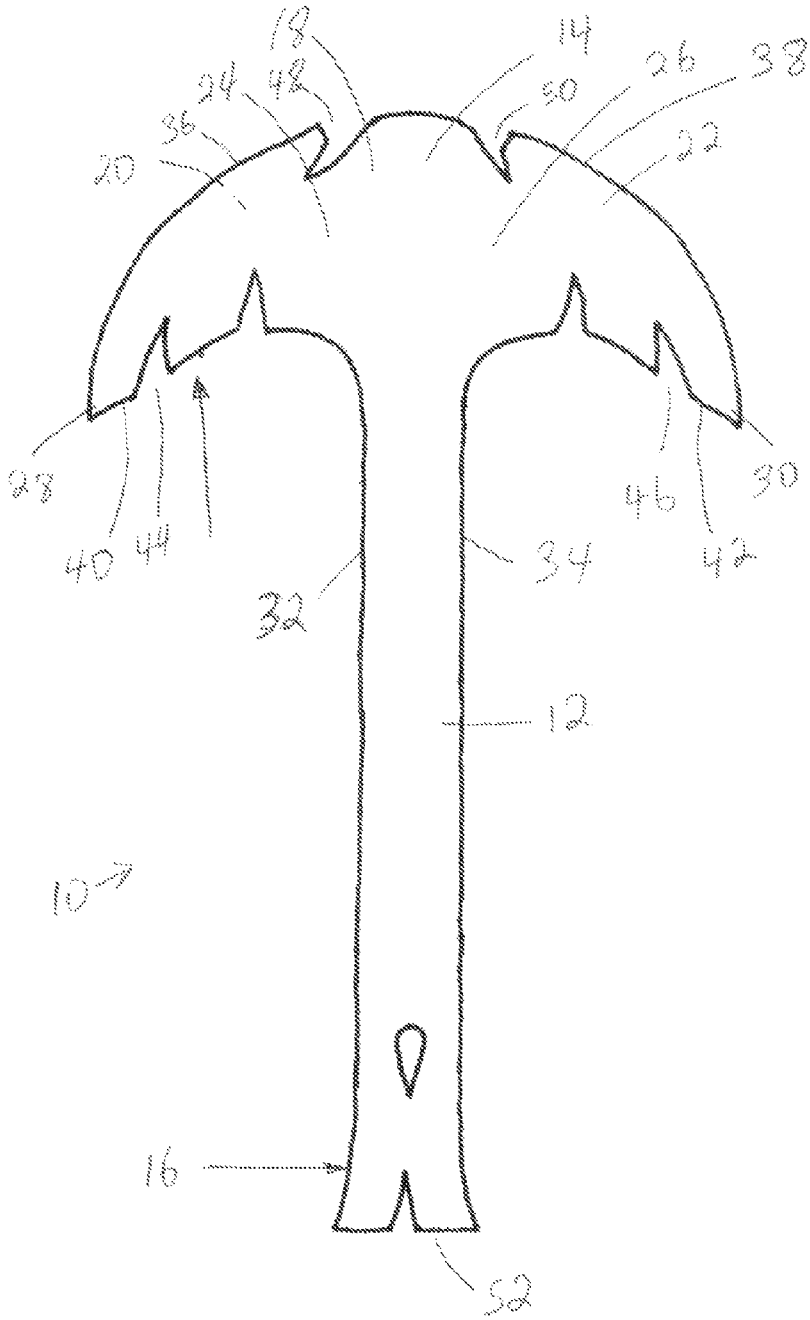
(57) **ABSTRACT**

Herein is disclosed a hand tool for removing nails. The tool includes an elongated handle having opposite first and second ends with a blade projecting transversely from a side of the elongated handle at the first end thereof. The blade is sickle shaped and curved towards the second end. The blade has a front edge contiguous with the first end. The blade has a width which tapers from the elongated handle to a pointed tip opposite the elongated handle. Finally, a nail hooking notch is formed on a back edge of the blade opposite the front edge.

9 Claims, 3 Drawing Sheets

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14
24
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42
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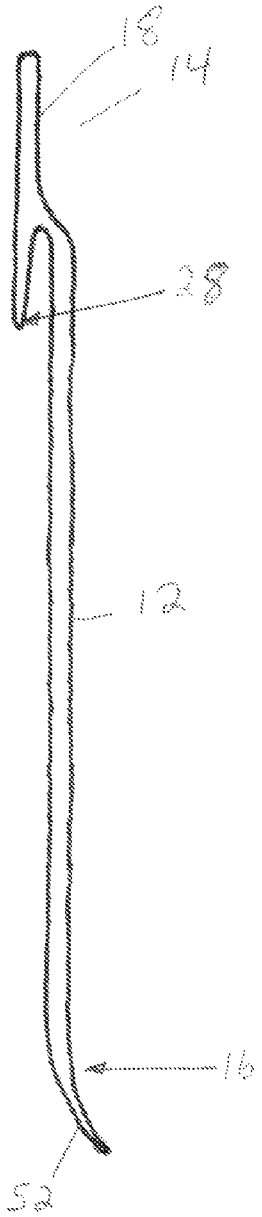
16
52

Fig. 1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16
52

Fig. 2

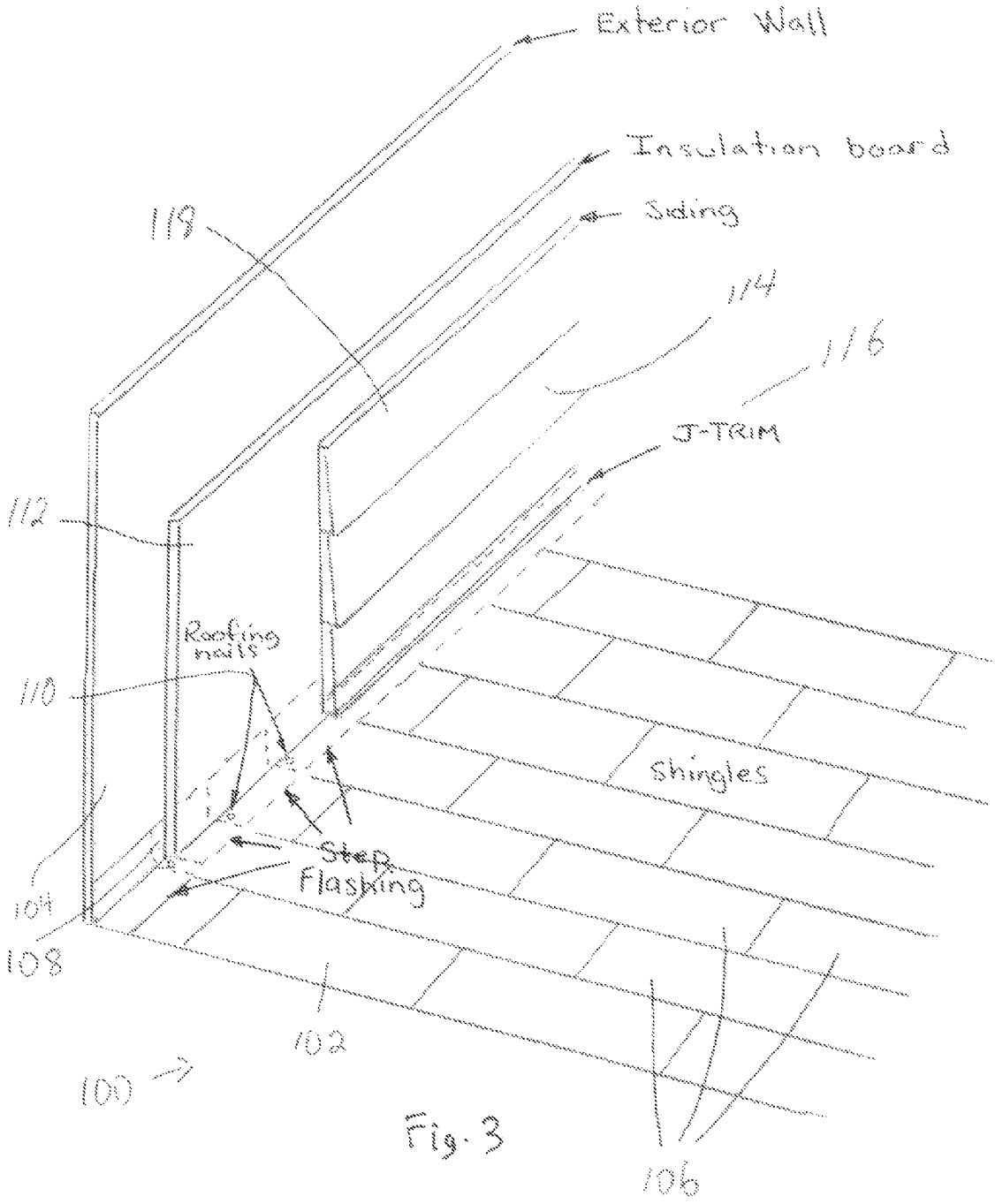
Exterior Wall
Insulation board
Siding
119
114
116
J-TRIM
112
Roofing nails
110
Shingles
Step Flashing
104
108
102
100
106

Fig. 3

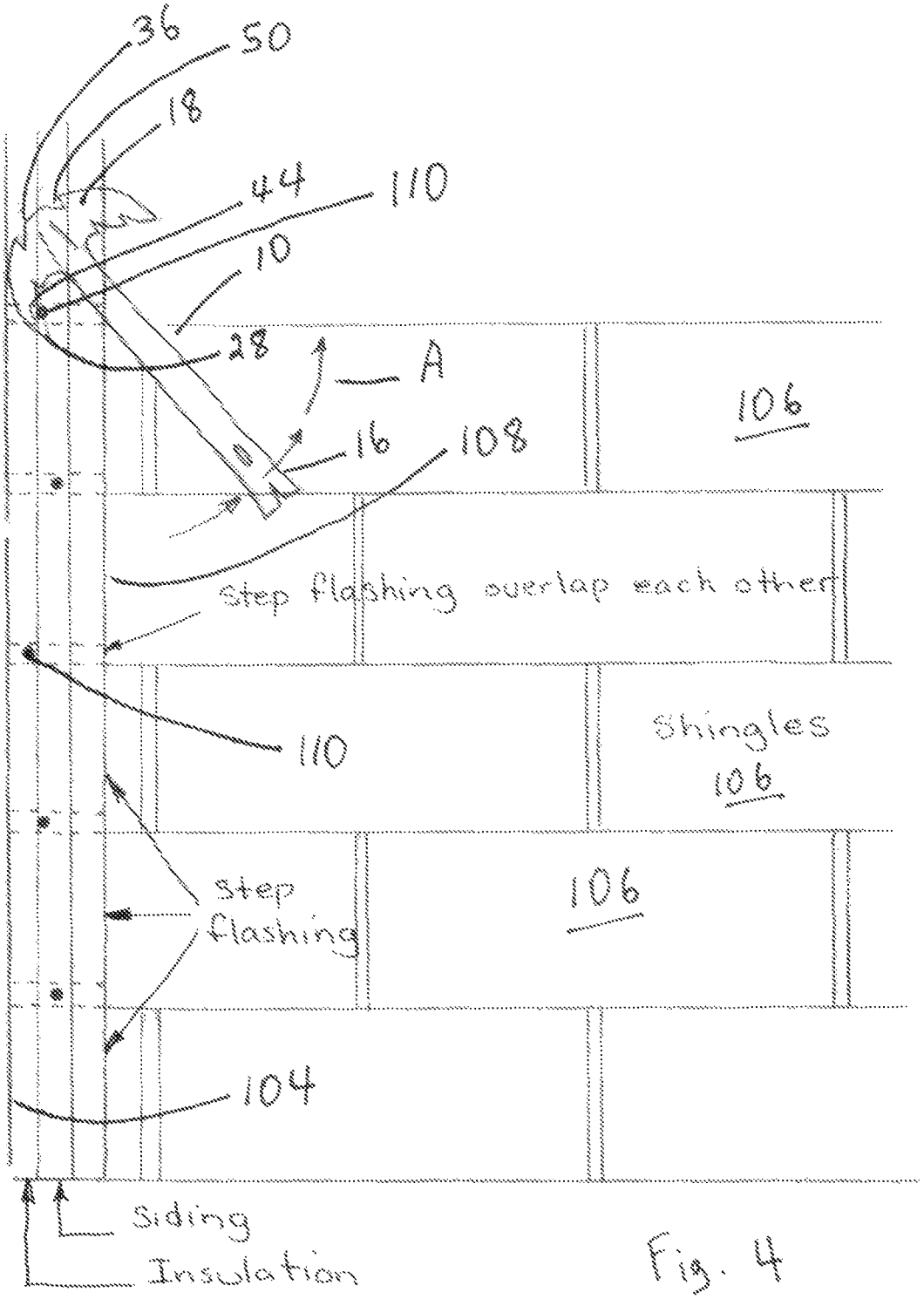
36
50
18
44
110
10
28
A
16
108
106
Step flashing overlap each other
110
Shingles
106
Step
Flashing
106
104
Siding
Insulation

Fig. 4

HAND TOOL FOR REMOVING NAILS

FIELD OF THE INVENTION

The invention relates generally to hand tools for removing nails.

BACKGROUND OF THE INVENTION

Renovating the roof of a building requires workers to pull out roofing nails which secure the roof's shingles. This is generally accomplished using either a claw hammer or a nail pulling pry bar since the nails are easily exposed. However, at the junction between a roof and a vertical wall, various flashings and channels are used to form a weather proof seal between the roof and the wall. These flashings and other components make accessing the roofing nails securing the shingles immediately adjacent the wall difficult to access without first removing the flashings and other various components. This requires a considerable amount of effort, so workers often compromise by not removing that portion of the shingle immediately adjacent the vertical wall. A hand tool which would make it easy to remove the roofing nails immediately adjacent the vertical walls would allow a worker to quickly and completely remove the roof shingles without having to disassemble or damage the roof flashings.

SUMMARY OF THE INVENTION

In accordance with one aspect of the present invention, there is provided a hand tool for removing nails. The tool includes an elongated handle having opposite first and second ends with a blade projecting transversely from a side of the flat elongated handle at the first end thereof. The blade is sickle shaped and curved towards the second end. The blade has a front edge contiguous with the first end. The blade has a width which tapers from the elongated handle to a pointed tip opposite the elongated handle. Finally, a nail hooking notch is formed on a back edge of the blade opposite the front edge.

In accordance with another aspect of the present invention, there is provided a hand tool for removing nails consisting of an elongated handle having opposite first and second ends and opposite first and second sides. A first blade is formed on the first end, the first blade projecting from the first side of the elongated handle roughly perpendicularly away from the elongated axis. The first blade has a back edge oriented towards the second end of the elongated handle, a front edge opposite the back edge, a base where the blade meets the elongated handle and a tip opposite the base. The first blade is narrower at the tip than at the base. The front edge of the first blade is curving back towards the second end of the elongated handle from the base to the tip. At least one nail hooking notch formed on the back edge of the first blade.

In accordance with another aspect of the present invention, there is provided a hand tool for removing nails, the tool consisting of an elongated handle having opposite first and second ends with a flat member shaped as a double ended blade having opposite first and second pointed tips extending transversely from the first end. The double ended blade is crescent shaped such that the first and second pointed tips extend towards the second end of the elongated handle. The double ended blade has a width which tapers from a base portion adjacent the elongated handle to each of the first and second pointed tips. The double ended blade also has a front contiguous edge and first and second back edges opposite the front contiguous edge, the first and second back edges on opposite sides of the elongated handle. At least one nail hooking notch is formed on each of the first and second back edges.

With the foregoing in view, and other advantages as will become apparent to those skilled in the art to which this invention relates as this specification proceeds, the invention is herein described by reference to the accompanying drawings forming a part hereof, which includes a description of the preferred typical embodiment of the principles of the present invention.

DESCRIPTION OF THE DRAWINGS

FIG. **1** is a top view of a nail pulling hand tool made in accordance with the present invention.

FIG. **2** is a side view of a nail pulling hand tool made in accordance with the present invention.

FIG. **3** is a perspective view of part of roof of a building partly disassembled showing the relationship between the shingles, the step flashing and the nails which are to be removed using the nail pulling hand tool shown in FIG. **1**.

FIG. **4** is a top view showing a nail pulling device made in accordance with the present invention being used to pull out a nail.

In the drawings like characters of reference indicate corresponding parts in the different figures.

DETAILED DESCRIPTION OF THE INVENTION

Referring to FIGS. **1**, a nail pulling hand tool made in accordance with the present invention, shown generally as item **10**, consists of an elongated handle **12** having opposite ends **14** and **16**. Double blade **18** projects transversely away from end **14** and consists of first blade **20** and second blade **22**. First blade **20** and second blade **22** each comprise a flat sickle shaped member having a base portion **24** and **26**, respectively and a pointed tip **28** and **30**, respectively. Blade **20** projects transversely away from side **32** of elongated handle **12** and blade **22** projects transversely away from side **34** of elongated handle **12**. Blade **20** has a front edge **36** and back edge **40**. Front and back edges **36** and **40** curve back towards end **16** to form the sickle shape. Likewise, blade **22** has front edge **38** and back edge **42** which curves back towards end **16**. Front edges **36** and **38** are contiguous while back edges **40** and **42** are positioned on either side of elongated handle **12**. Nail hooking notches **44** and **46** are formed on the back edges of blades **20** and **22**, respectively, and nail hooking notches **48** and **50** are formed on the front edges of blades **20** and **22**, respectively. A nail hooking/pulling pry bar **52** is formed on end **16** of elongated handle **12**. As best seen in FIG. **2**, blade **18** is set off from elongated handle **12** such that the blade and elongated are parallel, but not coplanar.

Referring now to FIG. **3**, the nail pulling tool made in accordance with the present invention, is designed to make it easier and quicker for a user to remove roofing nails which are located below step flashing. As shown in FIG. **3**, roof **100** consists of a flat angled roof panel **102** upon which shingles **106** are nailed. Where roof panel **102** abuts exterior wall **104**, special flashings and trims must be applied to ensure that a water proof seam linking the roof panel to the wall is maintained. This seam is formed by the use of metal step flashing **108** over top of shingles **106** where the shingles meet wall **104**. Over top of this, insulation **112** is mounted, and over top the insulation, is siding **118**. A length of trim **116**, usually in the form of a channel, is placed over top of the step flashing in order to mount siding **118**. As can be seen from FIG. **3**, the edge of shingles **106** closest to wall **104** are held down by

nails **110**, which are located underneath step flashing **108**, insulation **112**, trim **116** and siding **114**. The hand tool made in accordance with the present invention allows for the quick removal of these nails without having to disassemble the various component parts such as trim **116**, siding **114**, insulation **112** and step flashing **108**. The tool is designed to enable the user to insert the blade portion of the tool underneath an edge of the step flashing and then hook and pull out the nail by simply swinging the tool as better described below.

Referring now to FIG. **4**, in order to remove nail **110** from underneath step flashing **108**, the user inserts the nail hooking/pulling pry bar tool **52** to loosen and separate the steps and shingles, allowing space to insert blade **18** between the step flashing and shingle **106** and position pointed tip **28** of the blade between the nail and exterior wall **104**. The user does not need to know the exact location of the nail (it will be visible to the user from the side), but can instead use tool **52** to loosen and separate step shingles allowing the user to probe for the nail. When the user positions tip **28** between the nail and the wall, the user can then adjust the tool such that the nail is hooked by nail hook **44**. The user then pulls on end **16** of the tool in the direction indicated by arrow A (away from wall **104**) to force front edge **36** of the tool against wall **104**, thereby prying nail away. Since front edge **36** is curved, the front edge contacts the wall and acts as a fulcrum, allowing the tool to impart a mechanical advantage to the user allowing the user to easily pull out the nail without exerting much force. The user thereby pulls out the nail transversely from the underlying shingle without disturbing or damaging the flashing or other components.

Tool **10**, having a double ended blade **18**, can be used either in the right or left hand. Also, the user may use front nail hooks **50** or **48** (see FIG. **1**) in a very similar fashion. The front nail hooks are used for difficult access areas, such as under soffits and valleys. To use the front nail hooks, the user uses tool **10** to probe for a nail, and when one is found, the user moves blade **18** to place the nail within one of the front nail hooks. The user then pushes against end **16** towards wall **104**, which causes the tool to rotate about blade **18**. Again, front edge **36** and wall **104** act as a fulcrum, allowing the user a mechanical advantage to pull out the nail easily.

As can be appreciated, when removing roofing nails from the roof, most of the nails will not be placed near wall **104**. The user can again use tool **10**, but using the nail prying portion of the tool formed on end **16**. This allows the user to use one tool in one hand to quickly remove all of the roofing nails, without switching tools.

A specific embodiment of the present invention has been disclosed; however, several variations of the disclosed embodiment could be envisioned as within the scope of this invention. It is to be understood that the present invention is not limited to the embodiments described above, but encompasses any and all embodiments within the scope of the following claims

Therefore, what is claimed is:

1. A hand tool for removing nails, the tool comprising:

a. an elongated handle having opposite first and second ends positioned along a longitudinal axis;

b. a thin flat blade having a uniform thickness attached to the handle first end, the flat blade projecting transversely from both sides of the longitudinal axis and curved towards the handle second end forming a crescent shaped blade profile with opposing crescent shaped blade surfaces, the crescent shaped blade profile bounded on a distal end by a front edge surface curving back toward the second end on both sides of the longitudinal axis and bounded on the handle first end by two back edge surfaces located on opposite sides of the longitudinal axis and curving back towards the second end, the front edge surface and the back edge surfaces shaped to form a blade width that transversely tapers from the longitudinal axis to a substantially pointed tip where the front edge surface and the two back edge surfaces intersect,

c. at least one forward facing nail removing notch formed through both the opposing crescent shaped blade surfaces and through the front edge surface of the flat blade oriented away from the handle second end,

d. at least one backward facing nail removing notch formed through both the opposing crescent shaped blade surfaces and through at least one of the two back edge surfaces of the flat blade oriented towards the handle second end.

2. The hand tool of claim **1** wherein the second end of the elongated handle is formed as a nail pulling pry bar.

3. The hand tool of claim **1**, wherein the blade is set off from the elongated handle such that the blade and the elongated handle are not coplanar.

4. The hand tool of claim **1**, comprising two of the forward facing nail removing notches formed through both the opposing crescent shaped blade surfaces and through the front edge surface of the flat blade oriented away from the handle second end.

5. The hand tool of claim **4**, comprising two of the backward facing nail removing notches formed through both the opposing crescent shaped blade surfaces and through at least one of the two back edge surfaces of the flat blade oriented towards the handle second end.

6. The hand tool of claim **4**, comprising two of the backward facing nail removing notches formed through both the opposing crescent shaped blade surfaces and through both of the two back edge surfaces of the flat blade oriented towards the handle second end.

7. A hand tool for removing nails, the tool comprising:

a. an elongated handle having opposite first and second ends positioned along a longitudinal axis;

b. a thin flat blade having a uniform thickness attached to the handle first end, the flat blade projecting transversely from both sides of the longitudinal axis and curved towards the handle second end forming a crescent shaped blade profile with opposing crescent shaped blade surfaces, the crescent shaped blade profile bounded on a distal end by a front edge surface curving back toward the second end on both sides of the longitudinal axis and bounded on the handle first end by two back edge surfaces located on opposite sides of the longitudinal axis and curving back towards the second end, the front edge surface and the back edge surfaces shaped to form a blade width that transversely tapers from the longitudinal axis to a substantially pointed tip where the front edge surface and the two back edge surfaces intersect,

c. at least two forward facing nail removing notch formed through both the opposing crescent shaped blade surfaces and through the front edge surface of the flat blade oriented away from the handle second end,

d. at least one backward facing nail removing notch formed through both the opposing crescent shaped blade surfaces and through both of the two back edge surfaces of the flat blade oriented towards the handle second end

e. wherein the blade is set off from the elongated handle such that the blade and the elongated handle are not co-planar.

8. The hand tool of claim 7, wherein the second end of the elongated handle is formed as a nail pulling pry bar.

9. The hand tool of claim 8, comprising two of the backward facing nail removing notches formed through both the opposing crescent shaped blade surfaces and through both of the two back edge surfaces of the flat blade oriented towards the handle second end.

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